

CLAIMS:

We Claim:

- 1 1. An apparatus comprising:  
2 a plurality of pixels arranged as a plurality of columns;  
3 a light source located at a bottom or top of each column wherein a light  
4 source shines a predetermined combination of red, green, and blue light onto the  
5 FLCD lens above or below it;  
6 wherein each of said columns includes:  
7 a plurality of ferro-electric liquid crystal display (FLCD) lenses arranged in a  
8 hierarchy such that each FLCD lens shifts received light onto a combiner prism or  
9 onto the FLCD lens above or below it, until the light reaches a top or bottom pixel in  
10 the column; and  
11 a synchronizer coupled to the pixels of each of the plurality of columns and  
12 configured to activate the plurality of pixels by row location.
- 1 2. The apparatus of claim 1, wherein the plurality of pixels are activated from  
2 top to bottom.
- 1 3. The apparatus of claim 1, wherein the plurality of pixels are activated from  
2 bottom to top.
- 1 4. The apparatus of claim 1, wherein a set of synchronizers is configured to  
2 activate consecutive rows of the plurality of pixels.
- 1 5. The apparatus of claim 1, wherein the lens of the top row tilts over red, green,  
2 and blue lights onto the combiner prism.
- 1 6. The apparatus of claim 1, wherein the synchronizer determines how fast to  
2 activate the next row and tilt it onto the next set of combiner prisms.
- 1 7. The apparatus of claim 1, wherein the synchronizer comprises a digital timer  
2 connected to a voltage controller.

1 8. The apparatus of claim 1, wherein the red, green, and blue light sources are  
2 placed front to back or side by side, at the top or bottom of each column, depending  
3 on an amount of refractive index available.

1 9. The apparatus of claim 6, wherein a gap is formed between two FLCD lenses  
2 to account for the refractive index.

1 10. The apparatus of claim 1, wherein an angle of a tilt is controlled by changing  
2 current intensity applied to each FLCD by the synchronizer.

1 11. The apparatus of claim 1, wherein an angle of a tilt is controlled by a  
2 refractive index of the FLCD lens and combiner prism.

1 12. The apparatus of claim 1 wherein each of the plurality of columns comprises:  
2 a frosted glass-like treatment to eliminate or decrease the number of speckles  
3 obtained from the light source.

1 13. The apparatus defined by claim 1 wherein each of the plurality of columns  
2 comprises a rear matte black coating to enhance display contrast.

1 14 The apparatus of claim 9, wherein the gap comprises one of air or plastic.

1 15. A method comprising:

2 arranging a plurality of ferro-electric liquid crystal display (FLCD) lenses as a  
3 plurality of columns such that each FLCD lens in a column shifts received light onto  
4 a combiner prism or onto the FLCD lens above or below it, until the light reaches a  
5 top or bottom pixel in the column; and

6 shining a predetermined combination of red, green, and blue light onto a  
7 FLCD lens at a top or bottom of each column;

8 synchronizing each of the plurality of columns and configured to activate the  
9 plurality of pixels by row location.

1 16. The method of claim 15, comprising:

activating each row of pixels wherein during said synchronizing, a voltage controller connected to an FLCD lens causes the FLCD lens to tilt the light coming from below or above it onto a combiner prism.

17. The method of claim 15 comprising:  
activating the plurality of pixels from one of top to bottom and bottom to top.

18. The method of claim 15, comprising:  
tilting over red, green, and blue lights onto a combiner prism.

19. The method of claim 15, comprising:  
arranging the red light, the green light, and the blue light from front to back or side by side, at the bottom or top of each column, depending on an amount of refractive index available.

20. The method of claim 15, comprising:  
eliminating or decreasing a number of speckles obtained from a light source by use of a frosted front facing and using a black matte back wall to show a black pixel when no light is emitted.

21. The method of claim 18, wherein said tilting is at a predetermined angle due to a changing voltage value to an FLCD lens.

22. The method of claim 19, comprising:  
providing a gap between two FLCD lenses to account for the refractive index.

23. The method of claim 22, wherein the gap is formed from one of air and plastic.

24. A system comprising a flat moldable HDTV display, wherein the display comprises:  
a plurality of pixels arranged as a plurality of columns;  
a light source located at a bottom or top of each column wherein a light source shines a predetermined combination of red, green, and blue light onto the FLCD lens above or below it;

7 wherein each of said columns includes:

8 a plurality of ferro-electric liquid crystal display (FLCD) lenses arranged in a  
9 hierarchy such that each FLCD lens shifts received light onto a combiner prism or  
10 onto the FLCD lens above or below it, until the light reaches a top or bottom pixel in  
11 the column; and

12 a synchronizer coupled to the pixels of each of the plurality of columns and  
13 configured to activate the plurality of pixels by row location.

1 25. The system of claim 24, wherein the plurality of pixels are activated from one  
2 of top to bottom and bottom to top.

1 26. The system of claim 24, wherein the synchronizer is configured to activate the  
2 plurality of pixels on a row by row basis.